

Promotion of Watt-Bit Collaboration Project to achieve Green Transformation

~World's first watt-bit collaboration optimization model experiment to being
at The University of Tokyo campus ~

October 8, 2025

The University of Tokyo

TEPCO Power Grid, Inc.

The University of Tokyo (President: Teruo Fujii) and TEPCO Power Grid, Inc. (Head Office: Chiyoda-ku, Tokyo; President & Chief Executive Officer: Yoshinori Kaneko; hereinafter referred to as, “TEPCO PG”) are teaming up to trailblaze a watt-bit optimization model that leverages the attributes of information and communication technology (“bit”) to optimize power (“watt”) demand in order to promote green transformation at The University of Tokyo and build new sustainable society models.

The University of Tokyo has promoted the use of renewable energies and the spatial/temporal understanding of power consumption until then. In addition to these initiatives, we will promote the integrated visualization of overall power consumption on campus and the institution's carbon footprint*1, and leveraging energy data from power grids, etc. to optimize power consumption across campus facilities/equipment through workload shifting*2, for example, as it examines how to further leverage renewable energies. Considering the power consumption issues it faces and the HPC*3 cloud infrastructure and various experimental facilities it has on campus, The University of Tokyo is the ideal location for a watt-bit collaboration experiment.

With the drastic increase in power consumption stemming from data centers, etc., and the increased use of distributed power sources, such as renewable energies, TEPCO PG must take grid management into the next generation and must find new ways to address these issues with the participation of its customers rather than merely building more facilities, as has been done conventionally. Through this initiative we will examine how to shift workloads over wide areas and between regions to handle inter-university computing processes and leverage digital twins on campus for cross-sectional

visualization as we aim to develop next-generation transmission and distribution services that are linked to privately owned facilities, including distributed power sources (watt) and computing facilities (bit).

We hope that this collaboration between industry and academia will help to develop inter-regional university collaboration through watt-bit and we will continue to fulfill our mission of providing stable supply of power by achieving a watt-bit optimization model.

*1: Carbon footprint

Refers to the conversion into CO2 of the amount of greenhouse causing gasses emitted over the lifetime of an appliance or service from the procurement of raw materials to manufacturing, transportation, use, and disposal.

*2: Workload Shifting

Method for optimizing the management/control of computer processing (jobs and services) by actively moving them between data centers, clouds, and edges, and to different time frames, in accordance with conditions such as delays, cost, electric power (renewable energies) and failure risk, etc..

*3: High Performance Computing

Technologies and systems for the ultra-high-speed processing/computing of large volumes of complicated data by using computers connected to a network of multiple servers.

[Reference information]

The University of Tokyo Center for Strategic Promotion of GX official website (Japanese only)

<https://gx.u-tokyo.ac.jp/>

<Attachment>

[Watt-Bit Collaboration Project for Green Transformation](#)

End of announcement